

**Cook, Alex, McFarron, Manzo, Cummings & Mehler, Ltd.**

200 West Adams Street, Suite 2850  
Chicago, Illinois 60606-5234

TELEPHONE: (312) 236-8500

FACSIMILE: (312) 236-8176

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**TO:** U.S. Patent & Trademark Office  
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TRANSMITTAL  
SHEET):** 9

**FAX:** (703) 872-9310 **PHONE:** (703) 308-2350

**DATE:** November 20, 2001

**FROM:** Gary W. McFarron, Esq. (Reg. No. 27,357)

**REFERENCE:** Application Number: 09/457,173  
Filing Date: December 8, 1999  
Our Ref.: JACOB100/F7-5537

**MESSAGE:**

Dear Examiner Kim:

Attached for filing are the following:

1. Transmittal Form (1 sheet);
2. Response to Office Action of August 24, 2001 (7 sheets).

Respectfully submitted,

Gary W. McFarron, Esq.

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<b>TRANSMITTAL FORM</b>  <i>(to be used for all correspondence after initial filing)</i>	Application Number	09/457,173	
	Filing Date	December 8, 1999	
	First Named Inventor	James D. Jacobson	
	Group Art Unit	1723	
	Examiner Name	S. Kim	
Total Number of Pages in This Submission	9	Attorney Docket Number	JACOB100/F7-5537

ENCLOSURES <i>(check all that apply)</i>		
<input type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input checked="" type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input type="checkbox"/> Information Disclosure Statement <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input type="checkbox"/> Assignment Papers <i>(for an Application)</i> <input type="checkbox"/> Drawing(s) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s) _____	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group <i>(Appeal Notice, Brief, Reply Brief)</i> <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosures <i>(please identify below):</i> • Fax Cover Sheet
Remarks Filed by facsimile transmission to the USPTO to the attention of Examiner John Kim at Fax Number (703) 872-9310.		

### SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm or Individual name	Cook, Alex, McFarron, Manzo, Cummings & Mehler, Ltd. Gary W. McFarron
Signature	<i>Gary W. McFarron</i>
Date	November 20, 2001

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11-23-01  
awPATENT  
Attorney Docket No. JACOB100/F7-5537

## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application of: )

James D. Jacobson )

Serial No.: 09/457,173 )

Filed: December 8, 1999 )

Group Art No.: 1723 )

Examiner: S. Kim )

For: MICROPOROUS FILTER MEMBRANE, )  
METHOD OF MAKING MICROPOROUS )  
FILTER MEMBRANE AND SEPARATOR )  
EMPLOYING MICROPOROUS FILTER )  
MEMBRANES )CERTIFICATE OF FILING BY FACSIMILE  
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(703) 872-9310.NAME Jeannie RapstadSIGNATURE Jeannie RapstadOFFICIAL  
FAX RECEIVED  
NOV 20 2001  
GROUP 1700RESPONSE TO OFFICE ACTION OF AUGUST 24, 2001Commissioner for Patents  
Washington, D.C. 20231

This is in response to the Office Action of August 24, 2001, which rejected all of the pending claims 1-5, 14-30 and 102 as obvious over U.S. Patent No. 5,753,014 to Van Rijn in view of U.S. Patent No. 5,275,725 to Ishii. For the reasons set forth below, it is requested that this rejection be reconsidered and the pending claims allowed.

In the Office Action of August 24, 2001, the Examiner recognized that Van Rijn does not teach a "monolithic" filter membrane, as required by the claims. The Examiner now relies on

Ishii to show such a monolithic membrane. It is respectfully submitted that the rejection is based on an unduly broad interpretation of Ishii, and that upon reconsideration it will be clear that (1) Ishii does not teach or suggest a monolithic membrane as claimed, (2) that it would not be logical or obvious to combine Van Rijn and Ishii and (3) if combined, the claimed invention would not be the result.

As pointed out in the specification, the present invention is directed to a highly discriminating monolithic filter membrane that has a filter layer of precision shaped pores, which provides relatively high porosity without resulting in undue fragility (See, e.g., page 6 line 27; page 13, lines 13-23); with a precision shaped support layer that allows for flexibility. The membrane of the present application is particularly useful in medical applications, such as blood cell separation (See page 11, lines 22-32).

**Ishii does not Teach or Suggest**  
**A Monolithic Membrane**

The cited references simply do not teach or suggest the claimed features. The Ishii patent is directed to a flat woven/non-woven filter laminate that has sufficient strength to withstand back-flushing to clear the filter of particulate or other suspended material (See, e.g. Col. 6, lines 35-44). Ishii's "flat

separation membrane leaf" has a flat membrane support that includes an inner woven coarse layer with large voids and non-woven layers (made of densely arranged fibers) partially adhered to the inner layer by adhesive or heat fusing. A liquid polymer layer is then applied to the surfaces of the non-woven layers.

Unlike the present invention, the Ishii patent apparently contemplates separate, pre-formed and cured layers that are brought together and then fused or bonded together. In the present invention, the filter and support layers may be formed from the same original sheet of material or, alternatively, may be formed in two or more separate layers that are brought together before curing to provide, during curing, a chemical cross-linking with no discernible line of distinction. In either case, the resulting membrane appears, to ordinary observation, to have been fashioned from a single sheet or membrane.

This is very different from the result obtained in the Ishii patent which, regardless of whether adhesively bonded or heat fused, would result in a filter that clearly is made from separate and different layers that are preformed and fixed together in some fashion at a later time -- no one would confuse an inner woven core, non-woven random fiber mat intermediate layers and polymeric outer layer with a filter structure made from the same original

sheet or film. The essence of a monolithic membrane is simply absent in the Ishii patent.

It is not Logical or Obvious  
to Combine Van Kijn and Ishii

Even if the Examiner's interpretation of the Ishii patent is adopted, it would not be obvious to combine Ishii with Van Rijn to reach the present invention. First, it should be noted that the Ishii patent is apparently directed to a filter structure intended for industrial purposes such as desalination, filtration of fruit juices and waste water treatment. The Ishii patent describes a flat filter membrane that is not flexible, but is actually resistant to deformation caused by "back permeation" cleaning. Ishii describes a membrane that does not employ precision shaped pores in either a filter layer or a support layer, but rather uses a woven fiber core and non-woven fibrous layers to support a semipermeable membrane. Ishii describes a membrane that has no apparent application in the medical arts in general or in the separation of blood cells or the like in particular.

There simply is no suggestion or teaching in the Ishii reference that would logically lead one to combine the features of that device with the filter of Van Rijn to reach the present invention. Nor is there a motivation for any such combination. The multi-layer filter structure of Ishii is a fundamentally different

type of filter from the precision-shaped micron-scale filter membrane of the present invention, with different objectives, and different applications in an entirely different industry.

It is not logical or reasonable that one of ordinary skill would reach into the Ishii patent for an isolated feature that might be combined with the features of Van Rijn to reach the present invention. It is only with the improper use of hindsight, employing the present application as a blueprint or road map, that such a combination is even conceivable. As the Federal Circuit has made clear, however, obviousness cannot be based on combining isolated elements from various references where there is otherwise no teaching or suggestion of such a combination.

**Even if Combined, the Claimed  
Invention would not Result**

Even if one were to pick or choose, from all the Ishii disclosure, the isolated idea of adhesive or heat fusing two layers together, and apply it to Van Rijn, the present invention would not result. Ishii discloses adhesive or heat fusing two preformed layers of fundamentally different construction -- a coarse woven core and fibrous mat layers. Ishii clearly is not concerned with forming an integrated filter membrane and support structure that is monolithic, as defined herein. If the Ishii idea of adhesive or heat fusing two layers were applied to Van Rijn, the apparent

result would be adhesively or heat fused preformed filter and support layers, with a visible line of distinction between them, which is little different from the disclosure in Van Rijn itself. In any event, it is not the claimed invention that results.

For the above reasons it is submitted that the pending claims would not have been obvious to a person of ordinary skill in view of the cited references and that the rejection should be reconsidered and the claims allowed.

#### Claims 19-20

Claims 19-20 were rejected over Van Rijn in view of Ishii and further in view of U.S. Patent No. 5,807,406 to Brauber. For the same reasons described above, it is respectfully submitted that these claims are also allowable.

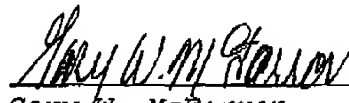
#### Miscellaneous

Finally, applicant notes that in the cited references form, the co-pending U.S. Provisional Application Serial No. 60/169,714 has a line drawn through it. Applicant submitted a copy of this application in an effort to be thorough and to comply with the duty of disclosure. It is requested this application be noted by the Examiner.



In conclusion, it is respectfully requested for all the above reasons that the pending claims be reconsidered and allowed. Although no fee is believed necessary, if it is determined that fees are required, please charge Deposit Account No. 50/1039.

Respectfully submitted,



Gary W. McFarron  
Registration No. 27,357  
COOK, ALEX, MCFARRON, MANZO,  
CUMMINGS & MEHLER, LTD.  
200 West Adams  
Suite 2850  
Chicago, Illinois 60606  
(312) 236-8500